The following notice is to appear on the City of Warwick's website on April 12, 2016. The website address is http://www.warwickri.gov/bids

BOARD of TRUSTEES, Warwick Public Library, Warwick RI
BIDS REQUESTED FOR

Bid #2016L-04 Purchase & Install Hearing Loop in Large Meeting Room

Specifications are available in the Administrative Office, Warwick Public Library, 600 Sandy Lane, Warwick RI, Monday through Friday, 9:00 AM until 3:00 PM on or after April 12, 2016 on the City of Warwick's website http://www.warwickri.gov/bids.

Sealed bids will be received in the Administrative Office, Warwick Public Library, 600 Sandy Lane, Warwick, RI 02889 until **noon on Tuesday, April 26, 2016**. The bids will be opened publicly commencing at **noon** on the same day in the Administrative Office, Warwick Public Library.

Awards shall be made on the basis of the lowest evaluated or responsive bid price as per our specifications. Please note that no bids can be accepted via email or fax.

Individuals requesting interpreter services for the hearing impaired must notify the Warwick Public Library at 401-739-5440, ext. 223 at least 48 hours in advance of the bid opening date.

Warwick Public Library

Bid #2016L-04 Purchase & Install Hearing Loop in Large Meeting Room

Specifications are available in the Administrative Office, Warwick Public Library, 600 Sandy Lane, Warwick, RI, Monday through Friday, 9:00 AM until 4:00 PM on or after Tuesday, April 12, 2016. They may also be obtained on the City of Warwick's website http://www.warwickri.gov/bids.

Sealed bids will be received in the Administrative Office, Warwick Public Library, 600 Sandy Lane, Warwick, RI 02889 through noon on Tuesday, April 26, 2016. The bids will be opened publicly commencing at **noon** on the same day in the Administrative Office, Warwick Public Library.

The contractor will not discriminate against any employee or applicant for employment because of physical or mental handicap for any position for which the employee or applicant is qualified, and that in the event of noncompliance the Library may declare the contractor in breach and take any necessary legal recourse including termination or cancellation of the contract.

A bidder filing a bid thereby certifies that no officer, agent, or employee of the Library or City has a pecuniary interest in the bid or has participated in contract negotiations on the part of the Library, that the bid is made in good faith without fraud, collusion, or connection of any kind with any other bidder for the same call for bids, and that the bidder is competing solely in his own behalf without connection with, or obligation to, any undisclosed person or firm.

All bids should be submitted with one (1) original in a sealed envelope. The exterior of the envelope shall be plainly marked to include: Your Company Name and "Bid #2016L-04 Install Hearing Loop". Bids received prior to the time of the opening will be securely kept, unopened. No responsibility will be attached to an officer or person for the premature opening of a bid not properly addressed and identified. No bids shall be accepted via fax or email.

All questions pertaining to these specifications should be referred to Christopher La Roux, Director, Warwick Public Library, 600 Sandy Lane,Warwick, RI 02889, 401-739-5440 ext. 223.

Any deviation from the specifications must be noted in writing and attached as part of the bid. The Bidder shall indicate the item or part with the deviation and indicate how the bid will deviate from the specifications.

Negligence on the part of the bidder in preparing the bid confers no rights for the withdrawal of the bid after it is opened.

The successful bidder must provide the Warwick Public Library with an ***original*** certificate of insurance for General Liability in a minimum **amount of $1 million** naming the ***City of Warwick as the additional insured*** and so stated on the certificate with the bid name and bid number.

The successful bidder must furnish a labor and material bond, and a performance bond in the amount of 100% of the cost of the project within ten (10) calendar days after notification of award or the Library reserves the right to rescind said award.

Failure to provide adequate insurance coverage within the specified duration of time as set forth is a materials breach of contract and grounds for termination of the contract.

The contractor must carry sufficient liability insurance and agree to indemnify the Library against all claims of any nature, which might arise as a result of his operations or conduct of work.

The successful bidder must comply with all Rhode Island Laws, applicable to public works projects, including, but not limited to provisions of Chapter 13 of Title 37 of the Rhode Island General Laws, pertaining to prevailing wage rates, and all other applicable local, state and federal laws. Prevailing Wages will apply to this bid. Current rates may be viewed at http://www.wdol.gov/dba.aspx#0 .

The IRS Form W-9 must be completed and submitted with the bid if the bidder falls under IRS requirements to file this form.

Prices to be held firm *from April 26, 2016-September 30, 2016.*

The Library is exempt from the payment of the Rhode Island Sales Tax under the 1956 General Laws of the State of Rhode Island, 44-18-30, Paragraph I, as amended.

Awards shall be made on the basis of the lowest evaluated or responsive bid price. The Board of Trustees of the Warwick Public Library is not obligated to accept the lowest bid and reserves the right to reject any and all bids or amend the scope of the project.

The Library reserves the right to terminate the contract or any part of the contract in the best interests of the Library, upon 30-day notice to the contractor. The Library shall incur no liability for materials or services not yet ordered if it terminates in the best interests of the Library. If the Library terminates in the interests of the Library after an order for materials or services has been placed, the contractor shall be entitled to compensation upon submission of invoices and proper proof of claim, in that proportion which its services and products were satisfactorily rendered or provided, as well as expenses necessarily incurred in the performance of work up to time of termination.

All costs directly or indirectly related to the preparation of a response to this solicitation, or any presentation or communication to supplement and/or clarify any response to this solicitation, which may be required or requested by the Library, shall be the sole responsibility of and shall be borne by the respondent.

If the respondent is awarded a contract in accordance with this solicitation and the respondent's bid or response, and if the respondent fails or refuses to satisfy fully all of the respondent's obligations there under, the Warwick Public Library shall be entitled to recover from the respondent any losses, damages or costs incurred by the Library as a result of such failure or refusal.

The Library reserves the right to rescind award for non-compliance to bid specifications.

The successful bidder must adhere to all City, State and Federal Laws, where applicable.

Warwick Public Library
Bid #2016L-04 Install Hearing Loop

I. **Project description**

The Board of Trustees of the Warwick Public Library invites bids for installation of a hearing loop in the large meeting room. The project must be coordinated with the carpet contractor and Library.

II. **Background**

The Warwick Library is a two-story structure of approximately 63,000 square feet. The building was built in 1965 and renovated and expanded in 1998. The large meeting room was part of that expansion. The large meeting room holds 102 people and is approximately 1,680 sq. ft. Measurements are the responsibility of the vendor. The building has steel framing and reinforced concrete. Work must be completed so as not to impede access by the public. Bidder is to examine the area and conditions under which work in this section will be performed, and determine if the hearing loop needs to be under the carpet or can be installed in a different manner, and specify correction of conditions detrimental to timely and proper completion of the work. Work shall not proceed until unsatisfactory conditions are corrected. If the hearing loop must be placed on the concrete floor then the vendor must work with the carpet installer and library director to determine a suitable schedule.

Work should be performed during normal hours of library operation if possible: Monday through Thursday, 9-9, Friday and Saturday, 9-5, and Sunday 1-5 (through end of May), also taking into consideration room availability. Otherwise work will need to be done before or after opening hours and those overtime hourly costs provided on the bid form.

III. **Specific services sought**

Specifications are attached

IV. **Site Visit**

Respondents to this request who wish to visit the Library may do so, during regular library hours, and by appointment only. Contact Chris La Roux, Library Director, 401-739-5440, ext 223.

V. **Selection process**

All bids must be received at the Library in the office of the Director by *noon, Tuesday, April 26* at which time they will be opened publicly.

Awards shall be made on the basis of the lowest evaluated or responsive bid price. The Board of Trustees of the Warwick Public Library is not obligated to

accept the lowest bid and reserves the right to reject any and all bids or amend the scope of the project.

Bid evaluations will consider costs, qualifications and experience of the respondent.

VI. **Bid requirements**

All bids must include a completed bid form.

BID FORM

Warwick Public Library

Bid #2016L-04 Install Hearing Loop

CONTRACTOR'S NAME:_____

CONTRACTOR'S ADDRESS:_____

_____

PHONE:_____FAX:_____

The undersigned proposed to furnish all labor at prevailing wage rate and materials required for installation of a hearing loop, as described in the bid specifications, at the Central Library at 600 Sandy Lane, Warwick Rhode Island for the Contract price specified below. The undersigned agrees that, if selected as the General Contractor, the terms of the Bid will be executed *on or before June 30, 2016*, if room availability and other meeting room work scheduling allows.

All bids shall contain certification and warrant that they comply with all relevant and pertinent statutes, laws, ordinances, and regulations, in particular, but not limited to Chapter 16-Conflicts of Interest, of the Code of Ordinances of the City of Warwick.

Base Price: To include all work specified or required for the completion of the project. Price to include purchase, preparation, installation and cleanup.

Hearing Loop: $_____

Warranty:_____

Timeline: _____

Contractor's hourly RI prevailing wage rate for installer: _____

Contractor's hourly RI prevailing wage rate for installer w/overtime: _____

Attach 2 references for similar contracts including names and contact information.

Authorized signature:_____

Printed Name:_____ Date: _____

Address: _____

Warwick Public Library
600 Sandy Lane
Warwick, RI 02889

Specification for Audio Frequency Induction Loop System
(called Hearing Loop in the US)
Phased Array Design Required

AUDIO FREQUENCY INDUCTION LOOP SYSTEMS PART 1 GENERAL

1.1 AFILS REQUIREMENTS

A. Supply and install the complete systems, detailed within this specification. Provide Audio Frequency Induction Loop Systems (AFILS) at the following locations and areas:

1. Meeting Room

B. The complete AFILS system shall incorporate all necessary elements, including but not limited to the following:

1. AFIL system design including loop layout design;
2. AFILS drive equipment, ancillary components and mounting accessories;
3. Appropriate Audio Input system specifications and coordination;
4. AFILS Loop wire with appropriate mounting or containment and associated feed cables, including any items required to install the loop cable properly and to code.
5. AFILS test equipment, recommend Contacta FSM which is the US standard.

1.2 COMPLIANCE

A. The AFILS shall comply with the current version of :

1. IEC 60118-4

B. A Certificate of Conformity to this standard shall be issued for this project.
C. In addition the system shall comply with current ADA standards.

1.3 SYSTEM DESIGN

A. The Contractor shall perform or confirm the following:

1. Background magnetic noise: Once all electrical power circuits in the room are fully functional, provide evidence that the background magnetic noise in the areas designated for loop coverage is within the limits defined in the standard, IEC 60118-4. If the background magnetic noise is between -32dB and -40dB ref: 400mA/m, the contractor shall not proceed without client approval and a demonstration with a loop listener.
2. Magnetic Spill: In using a phased array design the magnetic spill from the looped space to any adjacent looped or potentially looped space (whether part of this contract or not), or if the use of this loop requires confidentiality, the level in the useable adjacent area must be less than -32dB peak (using Contacta FSM in the Peak/RMS mode) Note: This level may be affected by the background noise level in the adjacent area. This spill level must be demonstrated to and approved by the client or its agent. A peak signal level of +3dB must be attained in a test loop using the proposed design (closest to the adjacent area) in the room to be looped.
3. Perform a site survey prior to design confirming effects of any metal in the floor.
4. A 313 loop design is recommended with loop widths of 9 ft is recommended unless there is a room nearby that needs reduced spill level then the loop widths should be reduced to 6 ft. Flat wire will work here however it is highly recommended that the floor be scored and the cable grouted into the groove. Scoring is definitely the most reliable method

1.4 AUDIO INPUT

A. Audio inputs shall provide clear pick up of all desired audio signals while minimizing unwanted audio and background noise. Signal-to-noise improvement is important to provide benefit to the hearing aid user. The audio system design shall provide proper mixing of the desired audio signal

PART 2 COMPONENTS

2.1 AFILS DRIVERS: AFILS drivers shall be provided to amplify input audio signals and drive the appropriate level of current through the loops for a phased array system.

A. Phased array loop driver

1. This pair of drivers whether in one package or two must be designed to work in a phased array.

2. Each induction loop driver or pair of drivers shall have the following characteristics:

a. "Current drive" output design
b. Rated current and voltage capable of driving the designed loop without clipping or distortion of the signal with full power bandwidth up to at least 2.5kHz
c. Capable of delivering the rated current and voltage into a load with 1600Hz sinewave signal for at least 5 minutes continuously without damage to the unit or interruption of the output signal as required by testing to the IEC standard.
d. Flat frequency response to meet IEC standard of 100Hz to 5kHz
e. THD+N less than 0.5% at 1kHz sine at full current
f. Automatic Gain Control (AGC) optimized for speech
g. Input connections suitable for the intended audio inputs to the system. Balanced inputs shall be used for both mic and line level signals. Balanced microphone inputs shall have phantom power available.
h. Front panel indication of audio signal activity on the input and current flow on the output of the unit. Height no greater than 2RU (i.e. 1 unit - 1.75 inches - of standard 19 inch rack space) per unit
i. All AC powered devices shall meet or exceed the UL standards which apply to their design.
j. Due to the lack of reliability, need for maintenance and noise produced, the drivers may not have a fan built-in to the unit.
k. All repairs and maintenance of products must be handled by the manufacturer in the US only. No long term overseas repair is allowed.

3. In a phased array system, there shall be a 90 degree phase shift provided, with the following characteristics:

a. The phase shifter should be internal to one or both of the drivers
b. Provides separate output to the slave driver
c. Generates a constant 90 degree phase shift between the loop outputs. Accuracy of 5 percent from l00Hz to 5000Hz

2.2 AFIL LOOPS

A. Loops connected to the AFILS system shall meet the following requirements:

1. Be designed and implemented to meet all requirements of section 1.3 above.
2. The loop design and installation practices shall take into account the layout and construction of the building.
3. Appropriate materials for the installation location shall be used that yield a professional and reliable installation reducing the chance of rework or repair.
4. Loop wire containment shall be of non-metallic construction (to avoid short circuit earth paths parallel with the loop wire). This restriction does not apply to the loop feed wiring between a loop amplifier and the start of the loop itself, which may be installed in metal or non-metal containment.
5. Implementation of the loops shall in general follow best practice and take into account the National Electrical Code and any local codes and the AHJ responsible for this location.

2.3 AFILS EQUIPMENT recommended

A. Loop receivers

For this loop location a loop receiver shall be provided for operational staff to check and monitor the performance of the AFILS system. These are also handed out to patrons who do not have hearing aids. The receiver shall have the following characteristics:

a. Headphone output and be provided with headphones
b. Low frequency cut filter
c. Recommend the Contacta RX20 loop receiver

Hearing loop driver/wire – Contacta HLD7-PA with roughly 700 ft of ETCF-18 awg cable

PART 3 EXECUTION

3.1 INSTALLATION

A. The contractor shall:

1. Have installed a minimum of 2 hearing loop systems and be able to supply references for each of them. Thorough factory training and support is also critical to the process.
2. Co-ordinate with other relevant contractors to ensure that an appropriate audio signal will be connected to the induction loop system and transmitted clearly.
3. Coordinate installation with general contractor prior to construction to ensure that all rough-in of cable and equipment is coordinated with construction and concealed.
4. Provide appropriate cabling and/ or connection points for system integration.
5. Wire and interconnect all items of equipment in accordance with the manufacturers' recommendation

6. Ensure appropriate separation of the loop (low voltage) wiring system, from any other low voltage wiring like audio and video cables.
7. Follow good audio and other relevant practices to ensure that earth bonding and other cable system design does not cause degradation of this or other system performance by allowing interference in inappropriate paths.
8. Confirm locations of all local power supply requirements and equipment spatial requirements.
9. All wiring of loops and between equipment locations shall be jacketed or installed and concealed in appropriate containment per the NEC.
10. All wiring, including that inside equipment enclosures or racks, will be of a neat and tidy appearance. Wiring shall be identified at both ends of each cable.

3.2 COMMISSIONING AND SIGNAGE

A. The contractor shall:

1. Perform testing and commissioning of the complete system(s) in accordance with the current IEC 60118-4 standard after installation is complete.
2. Utilize the current Contacta commissioning sheet (attached) to confirm the IEC standard.
3. Provide a minimum of 14 days' notice of all testing in order that a Client's representative may have reasonable option to attend and witness tests.
4. Provide operating instructions for all items of equipment and installed systems.
5. Demonstrate all systems and methods of use to the end user.
6. Provide "As Installed" drawings as well as Operation and Maintenance manuals.
7. Issue Certificates of Conformity to IEC 60118-4 that clearly state the results of testing and whether the system performance meets the relevant requirements of the standard.

B. Where the induction loops are to be installed prior to the drive/amplifier equipment, the loops shall be tested for continuity and for isolation from electrical ground and metal structures. The Client shall have the opportunity to witness these tests which shall be recorded and documented.

C. Signage is the responsibility of the installation contractor and an installation will not meet the IEC standard until all signage is installed

3.3 TRAINING AND MAINTENANCE

A. Training and instruction documentation shall be provided that enables staff to understand the proper use of the AFILS system and how to ensure that people with properly equipped hearing aids can make use of the system effectively.
B. A test and maintenance schedule shall be provided to the client
C. Training and instruction documentation shall be provided for operational staff such that they can use and perform regular functional tests on the system(s). This training shall include, but not be limited to, demonstrating the correct use of the test equipment and AFILS drivers provided.

END OF SECTION

IEC Standard 60118-4 - LOOP FIELD CERTIFICATION

Background noise level

1. Make sure the lights normally turned on, are on, and set to the appropriate levels.
2. Make sure the loop system is turned off.
3. Turn meter on and set it to the background noise mode – "A-weighted".
   - Measure the noise level while you walk around and through the seating area.
   - Is the number shown between -32 and -60? YES NO
   - For reference the greater the number is – the lower the background noise level.
4. *Always* listen through a loop receiver and note/demonstrate to the customer any interference that can be heard through the listener but may not be heard through hearing aids.

Field Strength Variation test

5. Using a constant signal type – preferably a 500Hz sine wave from the test generator, with the field strength below -12dB RMS and at least 20dB above the background noise level. Walk around the seating area holding the meter at a consistent vertical orientation and height, using the Peak/RMS mode record the RMS level. Note the locations in a sketch on the back of this sheet.

Center Location _____dB Location 1 _____dB Location 2 _____dB
Location 3 _____ dB Location 4 _____dB Location 5 _____dB
Location 6 _____ dB Location 7_____dB Location 8 _____dB

Subtract the smallest number _____ from the largest reading _____.
Was that difference less than 6? YES NO

Frequency response test

6. Connect the test generator to the loop driver and set the mode to "F" for full bandwidth pink noise. Confirm the driver level is set so the peak reading – with the meter is the RMS/Peak mode- is around 0dB.

7. In the center of the loop/seating area go to the "third octave" mode on the meter and record signal level at each of the followin frequencies. At each frequency allow 10 to 20 seconds before recording the reading:
100Hz _____dB, 200Hz _____dB, 500Hz_____dB, 1000Hz_____dB, 2500Hz_____dB, and 5000Hz _____dB.

The smallest reading _____ largest _____ the difference _____.
Is the difference 6 or less? YES NO

Peak Field Strength Level

8. Turn on the house audio system and ask the operator to play a CD or have someone speak. Make sure the sound level is approximately the same as during a normal program.

9. Switch the meter to the RMS/Peak mode. In the center of the loop/seating area press the reset button before taking the following readings:
Does the peak reading reach a level of 0 to +3dB when in the center of the looped seating area? YES NO
Then walk though out the seating area and note if the peak reading always is less than +6? YES NO

Signage and Training

10. Confirm that signage is in place and all trainings are scheduled. To meet the IEC standard this is necessary.

If YES is checked in all cases, the installation meets or exceeds the appropriate IEC standard. However if NO is checked in one of the sections this variation and its implications need to be reviewed with the customer and a plan of action developed.

Field Technical Person_____ Date: _____

Company: _____Phone number: _____

Special Notes: